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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,749	02/19/2004	Tetsuro Ogino	36625	1784

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EXAMINER	
UHLENHAKE, JASON S	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/780,749	OGINO ET AL.	
	Examiner	Art Unit	
	Jason Uhlenhake	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 5/7/2006.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-3 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-3 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 2/19/2004.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morita (U.S. Pub. 2003/0058331) in view of Otsuki (U.S. Pub. 2003/0085937).

Morita discloses:

- ***regarding claim 1 and claim 3,*** a setting unit for setting a correction reference value for a misalignment correction unit (Paragraph 0080)

- a first temperature detection unit for detecting an ambient temperature of the printer as a first temperature when setting the correction reference value by the setting unit (Paragraph 0117); a second temperature detecting unit for detecting an ambient temperature of the printer as a second temperature when performing the printing by the printer (Paragraph 0118)

- a correction reference value storage unit for storing the correction reference value set by the setting unit; a first temperature storage unit for storing the first temperature detected by the first temperature detection unit (Paragraphs 0010, 0080)

- calculation unit for calculating a misalignment correction value by revising the correction reference value read out from the correction reference value storage unit

on the basis of a result of comparison between the first temperature read out from the first temperature storage unit an d the second temperature detected by the second temperature detection unit (Paragraph 0118)

Morita does not disclose expressly the following:

- ***regarding claim 1 and claim 3,*** a print head for making reciprocating motion transversely with respect to a recording medium to thereby perform both forward printing and backward printing on the recording medium; a misalignment correction unit for correcting misalignment between the forward printing and the backward printing; wherein the misalignment correction unit corrects misalignment on the basis of the misalignment correction value calculated

Otsuki discloses:

- ***regarding claim 1 and claim 3,*** a print head for making reciprocating motion transversely with respect to a recording medium to thereby perform both forward printing and backward printing on the recording medium (Paragraphs 0001 – 0002); a misalignment correction unit for correcting misalignment between the forward printing and the backward printing; wherein the misalignment correction unit corrects misalignment on the basis of the misalignment correction value calculated (Paragraph 0005), for the purpose of improving the printer speed and the quality of printing

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a print head for making reciprocating motion transversely with respect to a recording medium to thereby perform both forward printing and backward printing on the recording medium; a misalignment

correction unit for correcting misalignment between the forward printing and the backward printing; wherein the misalignment correction unit corrects misalignment on the basis of the misalignment correction value calculated as taught by Otsuki into the device of Morita. The motivation for doing so would have been to improve the printer speed and the quality of printing

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morita (U.S. Pub. 2003/0058331) as modified by Otsuki (U.S. Pub. 2003/0085937) as applied to claim 1 above, and further in view of Silverbrook (U.S. Pat. 6,802,594) and Silverbrook et al (U.S. Pat. 6,464,332).

Morita as modified by Otsuki discloses:

- ***regarding claim 2,*** calculation unit refers to a temperature subrange table, decides a temperature subrange including the second temperature detected by the second temperature detection unit and calculates the misalignment correction value by revising the correction reference value on the basis of the difference between a number stored in the first temperature storage unit and indicating a temperature subrange including the first temperature and a number indicating a temperature subrange including the second temperature (Morita: Paragraphs 0020, 0115 – 0118)

Morita as modifiec by Otsuki does not disclose expressly the following:

- ***regarding claim 2,*** a temperature subrange larger in the amount of misalignment is narrower than a temperature subrange smaller in the amount of misalignment

- stores a temperature subrange table on which consecutive numbers for indicating temperature subranges respectively are assigned to the temperature subranges obtained by dividing an available temperature range on the basis of the amount of misalignment at each temperature

Silverbrook ('594) discloses:

- ***regarding claim 2,*** a temperature subrange larger in the amount of misalignment is narrower than a temperature subrange smaller in the amount of misalignment (Column 2, Lines 7 – 11), for the purpose of aligning the apparatus according to the temperature

Silverbrook et al ('332) discloses:

- ***regarding claim 2,*** stores a temperature subrange table on which consecutive numbers for indicating temperature subranges respectively are assigned to the temperature subranges obtained by dividing an available temperature range on the basis of the amount of misalignment at each temperature (Column 5, Lines 32 – 38), for the purpose of improving the quality of printing.

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of a temperature subrange larger in the amount of misalignment is narrower than a temperature subrange smaller in the amount of misalignment; storing a temperature subrange table on which consecutive numbers for indicating temperature subranges respectively are assigned to the temperature subranges obtained by dividing an available temperature range on the basis of the amount of misalignment at each temperature as taught by Silverbrook

('594) and Silverbrook et al ('332) into the device of Morita as modified by Otsuki. The motivation for doing so would have been to improve the quality of printing and aligning the apparatus according to the temperature.

Response to Arguments

Applicant's arguments with respect to claims 1 - 3 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejections regarding Morita (U.S. Pub. 2003/0058331) in view of Otsuki (U.S. Pub. 2003/0085937) and Morita as modified by Otsuki as applied to claim 1 above, and further in view of Silverbrook (U.S. Pat. 6,802,594) and Silverbrook et al (U.S. Pat. 6,464,332). The disclose a printer comprising a first temperature detection unit, a second temperature detection unit, and a calculation unit for calculating a misalignment correction value on the basis of a result of comparison between the first and second temperatures read from the temperature detecting units.

The applicant argues that Silverbrook ('594) does not teach "a temperature subrange larger in the amount of misalignment is narrower than a temperature subrange smaller in the amount of misalignment". Silverbrook discloses that alignment of the printhead modules will change as the temperature of the support beam changes, since any amount of misalignment will be larger than no misalignment, Silverbrook discloses that the misalignment will be larger at a given temperature than it will be at a different temperature.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Uhlenhake whose telephone number is (571) 272-5916. The examiner can normally be reached on Monday - Friday 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JSU
June 14, 2006

K. FEGGINS
PRIMARY EXAMINER